

ULTRA-PURPOSE

HIGH-FLOW, PRECISION CONSTRUCTION GROUT

PURPOSE

ULTRA-PURPOSE Construction Grout is a non-shrink, non-metallic material for precision construction grouting. This product provides excellent compressive strength at a fluid consistency for critical grouting applications.

ULTRA-PURPOSE grout is specially formulated for precision grouting applications where any kind of shrinkage is unacceptable.

ULTRA-PURPOSE can be pumped into small spaces not accessible by conventional grouting methods, yet still develop the required strength and bearing.

ULTRA-PURPOSE grout is free of iron particles, chloride and gypsum. It will not rust, shrink or break down under moist or humid conditions.

ULTRA-PURPOSE grout is recommended for:

1. Post-tensioned cables
2. Processing equipment and pumps
3. Bearing plates and base plates
4. Columns, beams and precast walls

ULTRA-PURPOSE is designed to provide bearing support for the grouting of base plates and heavy machinery subject to dynamic loads and vibration.

DESCRIPTION

ULTRA-PURPOSE grout is a mixture of Portland cement, specially graded aggregates and proprietary admixtures.

PACKAGING

ULTRA-PURPOSE is available in 50 lb. (22.7 kg) bags or pails.

PROPERTIES

ULTRA-PURPOSE grout meets or exceeds ASTM-C-1107 and CRD-C-621 (Grades A,B and C) specifications.

Compressive Strength (ASTM-C-109)

Mixed at 3.6 quarts (3.44 L)

psi	MPa	
4000	27.5	(1 day)
7000	48.2	(3 days)
8000	58.5	(7 days)
10000	68.8	(28 days)

Mixed at 3.25 quarts (3.1 L)

psi	MPa	
5000	41.3	(1 day)
8000	55.0	(3 days)
8500	68.8	(7 days)
10500	75.7	(28 days)

Mixed at 2.75 quarts (2.6 L)

psi	MPa	
5500	44.7	(1 day)
8000	55.0	(3 days)
9000	68.8	(7 days)
11500	82.6	(28 days)

Height Change (CRD-C-621, Section 10.2)

55% humidity 73F

Maximum flow 3.6 qts. of water

- +0.01% at 3 days
- +0.01% at 7 days
- +0.01% at 28 days

YIELD

The yield is approximately .44 ft³ per 50 lbs. (.012 m³ per 22.7 kg) of material with 3.6 quarts (3.44 L) of mixing water.

Actual yield will vary slightly depending on the amount of water, temperature and other field conditions.

APPLICATION

Storage: Opened containers should be used immediately or discarded. Material should be stored in a cool, dry place when not in use.

Preparation: Thoroughly clean all contact surfaces. Existing concrete should be strong and sound. Surface should be roughened to ensure bond. Metal base plates should be clean and free of oil and other contaminants.

Maintain contact areas between 45°F (7°C) and 90°F (32°C) before grouting and during curing period. For hot and cold weather applications, contact a Symons representative.

Thoroughly wet concrete contact area for 24 hours prior to grouting, but remove any standing water before actual placement. If 24 hours is not possible, then saturate with water for at least 4 hours.

Seal form surfaces to prevent water or grout loss. Provide an angle in the form high enough to maintain grout flow during placement. Forms should be at least 1" (2.5 cm) higher than the bottom of the base plate.

Mixing: A mechanical mixer with rotating blades, like a mortar mixer, works best. Small quantities can be mixed with hand tools. Place approximately ¾ of the needed water into the mixer or suitable container, then slowly add grout and blend thoroughly for five minutes. Add only the remaining water necessary to achieve the desired consistency. For hot weather conditions above 90°F (29°C), mix grout using cold water. For cold weather conditions below 50°F (10°C) mix grout with warm water. The working time for this material is approximately 30 minutes, depending on field conditions.

Three placing consistencies can be obtained by varying the water/cement ratio:

Fluid:	3.6 qts/50 lbs.	(3.44 L/22.7 kg)
Flowable:	3.25 qts/50 lbs.	(3.1 L/22.7 kg)
Plastic:	2.75 qts/50 lbs.	(2.6 L/22.7 kg)

Placements greater than 3" (7.6 cm) in thickness can be extended with 25 lbs (11.3 kg) of $\frac{3}{8}$ " (1 cm) pea gravel for each 50 lbs. (22.7 kg). The approximate working time is 30 minutes, but varies with field conditions.

Placement: Grout should be placed from one side of the grout box to avoid entrapped air and voids. Placement and consolidation should be continuous for any one section. When nearby equipment causes vibration, the equipment should be shut down for 24 hours.

Finishing: Forms may be removed when grout is completely self-supporting. Cut away areas where grout restricts movement, i.e., edges of steel base plates, etc. For best results, grout should slope downward at a 45° angle from the lower edge of the steel base plate or similar structure.

Exposed grout surfaces must be cured thoroughly. Apply a cure and seal compound, like Symons CURE & SEAL HS WB, for the best results.

Unusual applications or conditions may require technical assistance of a Symons representative.

CLEAN-UP

Clean tools and equipment with water.

LIMITATIONS

Do not retemper after initial mixing. Do not add other cements or additives.

ULTRA-PURPOSE grout is not recommended as a resurfacing material.

SHELF LIFE

Shelf life of properly stored material is one year.

PRECAUTIONS

It is mandatory to take the following precautions to protect workers and the public:

1. KEEP OUT OF THE REACH OF CHILDREN.
2. Contains free silica and may cause delayed lung injury (silicosis). Avoid inhalation of dust and ensure adequate ventilation.
3. Avoid contact with skin. Protective clothing is recommended. Contact areas should be thoroughly washed with soap and water.
4. Avoid contact with eyes. Protective goggles are recommended in case of splashing. Flush eyes with water if contact occurs.
5. Avoid ingestion of material. If ingestion occurs, contact poison center or physician.

Additional precautions, safety information and first aid treatments are contained in the Material Safety Data Sheet.

WARRANTY

Symons warrants, for 12 months from the date of manufacture, or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Symons, the product is free of manufacturing defects and conforms to Symons' published specifications in force on the date of acceptance by Symons of the order. Symons shall only be liable under this warranty if the material has been applied, used, and stored in accordance with Symons instructions in this technical data sheet.

The purchaser must examine the product when received and promptly notify Symons in writing of any nonconformity before the product is used, or no later than 30 days after such nonconformity is first discovered. If Symons, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the nonconforming product, refund the purchase price or issue a credit. This is the sole and exclusive remedy for breach of this warranty.

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